

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-7 (Canceled)

8. (New) A body comprising a substrate made out of cemented carbide or silicon, and at least one layer of nanocrystalline diamond arranged directly on a surface of said substrate, where a surface of said layer has a surface roughness Rz which is less than the surface roughness Rz of said substrate surface.
9. (New) Body according to claim 8, said surface of said layer having a surface roughness Rz of less than 2 μm .
10. (New) Body according to claim 8, said surface of said layer having a surface roughness Rz of less than 1 μm .
11. (New) Body according to claim 8, said layer being of unordered, untexturized crystals, wherein the crystals are between 5 and 100 nm in size.
12. (New) Body according to claim 8, said body being a tool.
13. (New) Body according to claim 8, said body being a machining tool.
14. (New) Body according to claim 8, said layer comprising a non-columnar crystal structure.
15. (New) Body according to claim 8, where further layers are arranged on said nanocrystalline diamond layer.
16. (New) Method for CVD coating, where
in a coating procedure under a carbon-containing gas atmosphere a diamond layer is deposited directly on a substrate made out of cemented carbide or silicon, where during said coating procedure, process parameters are varied such that said parameters are changed multiple times between a first and a second operating state,

where in said first operating state there is a higher carbon over-saturation of said carbon-containing atmosphere close to said substrate, and in said second operating state there is a lower over-saturation of said carbon-containing atmosphere close to said substrate, where the change between the two operating states is effected such that a nanocrystalline diamond layer is deposited on said substrate, where the surface of said layer has a surface roughness R_z which is less than the surface roughness R_z of said substrate surface.